



NAVY DEPARTMENT

BUMED NEWS LETTER

a digest of timely information

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The Elimination of Rhus Dermatitis: The elimination of most of the Rhus poisoning in the United States within the next few years can be accomplished. The effectiveness of two new chemical herbicides, ammonium sulfamate and 2,4-dichlorophenoxyacetic acid (2,4-D), which have just come into use, provides the first really promising solution of this problem.

Rhus poisoning has received only minor attention from public health authorities, yet the USPHS study on the illnesses of 38,544 people shows a rate of 2.5 cases per 1,000 people annually. Seventeen and seven-tenths per cent were bed patients whose average time in bed was 3.6 days. The mean days of disability per total case were 1.7; per bed case they were 4.9. The average total duration of the symptoms was ten days. Cases appeared in every part of the country, the crude case rate per 1,000 being 2.3 in the Northeast, 1.5 in the North Central states, 2.5 in the South and 4.6 in the West. The numbers are too small to make these figures a reliable index of frequency, but they do show the national distribution of the causative plant. Of the cases, 71.9 per cent were attended medically; the average number of calls per attended case was 1.93.

National estimates, using these figures as a basis, indicate 350,000 cases per year, with approximately 600,000 days of lost time and 465,000 medical visits.

Although it is usual to think in terms of poisonous forms of ivy, or oak or sumac, the plants are of only a single genus, Rhus or Toxicodendron, and perhaps of only one species. In the past, over fifty designations of species have appeared in the literature under the genus Rhus. They have now been given a new classification accepted by the U.S. Herbarium in Washington, D.C., under the genus name Toxicodendron. The species listed in this classification are: (1) Toxicodendron toxicodendron (the former Rhus toxicodendron or Rhus quercifolia), (2) Toxicodendron radicans (eastern ivy), (3) Toxicodendron diversilobum (western poison oak, Rhus lobata or Rhus diversiloba), (4) Toxicodendron vernix (swamp sumac, Rhus vernix, Rhus venenata).

The first three species were recently taken from different parts of the United States to Texas by Shelmire. Having grown side by side they were so similar as to suggest that they are a single species with rather consistent geographic variations.

Chemical and biological research indicates that the same chemical substance (urushiol) is the toxic substance in all of these plants. Studies of urushiol show it to be a dializable but nonvolatile oily resin. Soot particles

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in the smoke from burning plants carry enough of the substance to produce poisoning, but otherwise it is not air-borne, although statements to that effect have appeared in the literature until recently.

How is it then that it has been practically impossible for highly susceptible persons to avoid repeated poisonings? The answer lies in the fact that poisoning occurs by indirect as well as direct contact, and as little as 0.001 mg. will cause dermatitis in some persons. The poison is transmitted indirectly by cats, dogs, horses, and other animals which walk over the plants, and also by clothing, tools, soil, and other surfaces. It is quite possible that insects may carry enough poison from broken leaves to cause dermatitis.

The difficulty of avoiding poisoning is increased by the fact that the plant is pleomorphic. Poison oak may be a slender, inconspicuous vine bearing leaves some distance apart, or a more conspicuous vine, or an upright stock growing out of the ground, or a bush running to almost treelike proportions. The leaves vary in shape and the plant is often partly hidden by other plants among which it is growing. Interviews with college students who have grown up in areas where the plant is plentiful reveal that a large number of them do not recognize it in its various forms.

The plant is spread not only by underground roots and the fruit which is dropped to the ground, but also by seeds in the droppings of the birds which have eaten the berries. Thus it appears in all sorts of places, in fields, in woods, in parks, in gardens, and by the roadside.

Because of unsatisfactory experience with preventive hygiene and preventive medicine, attention is being given to environmental control, in which now, for the first time, there is some promise of success. Earlier attempts to kill the plant or dig it out were unsuccessful, but the new chemicals kill it, root and all. It may be felt that it is hopeless to attempt to eradicate the plant immediately over millions of acres of land. Complete eradication at once is not necessary. The poison is not air-borne and the cheapness of some of the chemical herbicides makes it possible to eradicate the plant near dwellings and in other frequented areas like roadways, parks, and cultivated lands, even if the growth is fairly extensive.

Ammonium sulfamate is not explosive or poisonous to animals, and it is now available in a form which is not corrosive to metals. It is highly effective and can be used later in the season than 2,4-D. It kills other plants. Grass tops are killed but the grass will usually come up from the roots. It costs about 30 cents a pound at retail and 15 cents a pound in larger quantities. About one pound is needed in making a gallon of spray. A heavy growth of poison ivy or poison oak would require from 100 to 300 gallons of spray per acre.

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The other herbicide, 2,4-D, is a hormone-like chemical, which in small quantities stimulates growth, but when applied to the leaves in greater concentration, kills active broad-leaved plants completely. Some respraying of missed plants after a month and a yearly spring check-up will be needed. But when the plants are eradicated in frequented areas, the seeding of new plants will be limited.

Wide uses are being found for the weed-killing action of 2,4-D. It seems likely that it will prove of significance in the elimination of ragweed as well as poison ivy. Ragweed is among the more sensitive of the common weeds and considerable success has been achieved in preventing pollen formation by the use of a low dilution of 2,4-D as a water spray and also in the form of a fog.

2,4-D spray can be made for from 8 to 12 cents per gallon in small amounts, and for from \$3 to \$4 per 100 gallons. It does not constitute a fire hazard, nor is it corrosive to metals or irritating to the skin, or poisonous to man or other animals. It does not kill grass in the concentration used but it does kill many broad-leaved plants besides poison ivy. These qualities make 2,4-D more practical than ammonium sulfamate for use in large areas.

Many chemical companies manufacture 2,4-D compounds under various trade names. These weed killers vary in price, in concentration, and in the nature of the chemical compound, which may be the dichlorophenoxyacetic acid as such or the ammonium salt, the sodium salt, the triethanolamine salt, or the methyl, ethyl, or butyl ester. The authors have little data on their relative effectiveness. 2,4-D is most effective on poison ivy around the end of the growing season. Moist soil and sunlight seem to add to its effectiveness. It always acts slowly, requiring about a month to produce killing action.

The following precautions should be advocated in advising the use of 2,4-D:

1. Be sure the chemical is in the correct concentration and well mixed.
2. Spray when the leaves are well developed and present a large surface for absorption of the chemical. (2,4-D is not effective late in the season when the plant has become dormant.)
3. Spray the whole plant and cover the leaf surfaces as completely as possible, but be careful that the drift of the spray does not wet flowering plants or fruit trees. (Neither moisture on the leaves, nor rain four or more hours after spraying will prevent the killing action of the spray.)
4. If a few plants have survived, kill them by spraying a second time in three or four weeks.

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5. Examine the area the next spring and kill any new plants which may have come up from seed.

6. Clean the spraying equipment thoroughly before using other sprays on cultivated plants.

Summary and Conclusions. 1. Preventive hygiene and attempted desensitization have not proved effective in preventing Rhus dermatitis.

2. Eradicating the plants in frequented areas by means of 2,4-D or ammonium sulfamate provides a practical means of prevention.

3. The effective organization of communities for health education in the eradication of poison oak can be accomplished.

4. Health department leadership and the cooperative efforts of community agencies can reduce the now prevalent dermatitis to a relatively rare illness. (Am. J. Pub. Health, Jan. '47 - C. E. Turner)

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Incidence of Diphtheria: Ever since the advent of diphtheria immunization there has been constant speculation about whether the decline in the incidence of diphtheria could be attributed to immunization or was a coincidental and unrelated phenomenon but, if related, whether or not the prevailing low levels of incidence could be maintained. Those who were most doubtful of the effect of community immunization pointed out correctly that diphtheria had decreased in many nonimmunized communities at the same rate as in the immunized. Subsequent experience has shown, however, that in the former the decrease has not been maintained. Although it is agreed that there are many factors other than mere extent of immunization that have influenced this decline, it is believed that most observers in this country are in agreement that immunization has been a force that has not only directly reduced the incidence but may also have so shifted the balance of other factors as to effect a further reduction.

It has been logical to speculate, however, on the permanence of this effect. Diphtheria occurs in definite although possibly irregular cycles of altered prevalence and virulence. Is there reason to believe that immunization may have been effective when it coincided with the downswing of a cycle, but would be less effective on the upswing? May protection be adequate as long as the prevailing form of the infection is relatively mild, but be inadequate at a future date when more virulent strains of organisms reappear and become dominant? These are questions that cannot be answered at this time, but on which some light may be shed by examination of recent trends in the prevalence of diphtheria in this country and abroad.

Based upon the material considered, the author summarizes his study as follows:

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In the past five years, there has been an actual increase in the incidence of diphtheria. Although occurring throughout the world, the only significant episode has been the one in northwestern Europe where an amazingly high rate occurred in certain occupied areas, with appreciably smaller increases in neutral countries. There is reason to believe that this was attributable to secondary epidemiological factors rather than the appearance of new virulent strains, and that it was controllable by vigorous programs of immunization. The rise in the United States during the past two years is probably an expression of the normal periodic fluctuations in incidence, fluctuations that have heretofore been largely obscured by the rapid increase in the proportion of the population that was being immunized. That this is nothing more than a transient rise is suggested by the fact that the disease is again declining rapidly in those parts of the country chiefly responsible for the overall rise.

There is no evidence that especially virulent strains have been introduced from Europe or that immunization is not effective against all prevailing strains. (Am. J. Pub. Health, Jan. '47 - G. W. Anderson)

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Status of Bacitracin: At a recent meeting in Washington, D.C., of the Antibiotics Study Group of the National Institute of Health, USPHS, reports of studies on bacitracin were presented.

The antibiotic, bacitracin, is produced by a Gram-positive sporulating bacillus of the B. subtilis group which was isolated from cultures of contaminated tissue removed at operation from a compound fracture of the tibia.

Balbina Johnson et al. reported on the In Vivo and In Vitro Laboratory Observations on Bacitracin, giving the details of the chemical and pharmacological studies which were carried out.

The table following shows the antibacterial spectrum of bacitracin as determined from the results of a preliminary survey:

(Not Restricted)

Organisms	Sensitive to Bacitracin (in units)*	Resistant to Bacitracin (in units)*
<u>AEROBIC BACTERIA</u>		
Hemolytic streptococci		
Group A, B, C, G	0.008-0.0005	
Group D	3-0.008	
Non-hemolytic streptococci	3-0.02	
Pneumococcus		
Type I, II, III, XVIII	0.008-0.002	
Type XXXII	-0.015	
Staphylococci (coagulase +)	2.5 -0.05	
Other micrococci	2.5 -0.005	
Diphtheroids	0.005-0.003	
<u>C. diphtheriae</u>	0.015-0.004	
Meningococcus	-0.01	
Gonococcus	-0.006	
<u>B. anthracis</u>	-12.5	
<u>B. subtilis</u> group		100
<u>E. coli</u>		100
<u>Aerobacter aerogenes</u>		100
<u>Aerobacter cloacae</u>		100
<u>Proteus vulgaris</u>		100
<u>Ps. aeruginosa</u>		100
<u>Alcaligenes faecalis</u>		100
<u>E. typhosa</u>		100
<u>ANAEROBIC BACTERIA</u>		
<u>C. perfringens</u>	0.008-0.002	
<u>C. septicum</u>	0.008-0.002	
<u>C. bifermentans</u>	0.01-0.005	
<u>C. novyi</u>	0.01-	
<u>C. tetani</u>	0.01-0.006	
<u>C. histolyticum</u>	0.01-0.004	
Non-hemolytic streptococci	0.01-0.005	
Micrococci	0.05-0.008	
Diphtheroids	-0.003	

*1 unit is the amount of antibiotic which can be diluted 1000 times and still inhibit the growth of a test strain of Beta hemolytic streptococcus.

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Although the bacitracin thus far prepared by commercial laboratories has produced toxic symptoms, the authors believe that, because they have not observed toxic symptoms from preparations of greater titer made in their own laboratory, it is possible that the toxic elements of the commercial preparations can be removed.

Harry Eagle and co-workers reported upon The Prolonged Blood Levels and the Low Renal Clearance in Rabbits and Man of an Antibiotic Derived from B. Subtilis (bacitracin). Among other results, the following were found:

Four hours after the intramuscular injection in man of 5 mg. per kilogram of bacitracin, the blood levels averaged 6 micrograms per c.c., from 10 to 15 times greater than the blood levels after penicillin G had been similarly injected.

The cumulative urinary excretion of bacitracin after 1, 2, 4, and 6 hours averaged 17, 34, 66, and 87 per cent, respectively. The hourly excretion of 16 per cent in the 2- to 4-hour period was five times greater than the hourly excretion of penicillin in that time period, reflecting the slower excretion and sustained blood levels of bacitracin.

The renal clearance of bacitracin in 9 subjects varied from 105 to 283 c.c. per minute (averaging 159 c.c.). The renal clearance of bacitracin averaged 1.1 times the glomerular filtration rate as determined with sodium thiosulfate, and was one-fourth of the calculated renal plasma flow.

For organisms equally susceptible to bacitracin and penicillin in vitro, the present results indicate that bacitracin might be therapeutically more effective, requiring smaller doses per injection, or a smaller total number of injections.

John T. Goorley of the Ben Venue Laboratories in reporting upon Some Chemical and Physical Properties of Bacitracin which had been observed from material produced on a pilot plant scale for Doctor Meleney's clinical use, pointed out that the purity of the bacitracin concentrates during the early phases of their program was about 5 units per milligram of total solids. By introducing new methods and refinements, the purity has been increased to 40 units per milligram. The immediate objective was to obtain material with a low toxicity suitable for injection into humans. By their methods of manufacture, bacitracin assaying less than 25 units per milligram was almost twice as toxic on a unit basis as the current material. Bacitracin appears to be a polypeptide of high molecular weight. It is soluble in water and lower alcohols but insoluble in many other organic solvents. Material suitable for parenteral use in humans has been produced.

(Not Restricted)

Frank L. Meleney and Balbina Johnson reported upon The First 100 Cases of Surgical Infections Treated Locally with the Antibiotic Bacitracin. The patients involved in this study were treated during the last three years.

The first six cases were treated with the crude filtrate from the culture of the bacillus which produced the antibiotic. The next thirty patients were treated with the concentrated and partially purified product prepared in the laboratory of biochemistry by Doctor Anker. The remaining 64 patients were treated with material furnished by the Ben Venue Laboratories of Bedford, Ohio. The product has been steadily improving in its potency, solubility, and in the decrease of its toxicity.

A drug is of value in the treatment of surgical infections (1) if it obviates surgery in a condition almost invariably requiring surgical incision to effect a cure, (2) if it permits a less extensive surgical procedure than would ordinarily be required, (3) if it definitely shortens the healing time, (4) if it permits a primary closure, or (5) if it permits a secondary closure earlier than would customarily have been successful without the use of the drug. The effect of the drug is still more impressive if it can be demonstrated that the causative organism has been eliminated from the area of infection promptly following the administration of the antibacterial agent.

In this series the result was called "Excellent" if there was a prompt and unmistakable response and a rapid resolution of the infective process within 72 hours. The result was called "Good" if there was an unmistakable response to the drug over a longer period, generally a week or ten days. The result was called "Questionable" if uncertainty existed whether the case might not have done just as well without the drug. The result was listed as having "No Effect" if the infection progressed steadily despite the use of the drug.

These cases represent just the ordinary type of infections which are seen in any surgeon's office or the surgical clinic of any hospital. The majority of patients with these infections were ambulatory; some required hospitalization. The earlier patients were treated at the same time that patients with similar lesions were being treated locally with penicillin. In many of these cases the lesion had been treated unsuccessfully with the sulfonamides or with penicillin, and the organisms were found to be either resistant or antagonistic to these drugs.

Bacitracin was administered in an aqueous solution and in a water-soluble ointment base. Fifty-seven patients were treated with the solution only, thirty-two with only

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the ointment, and eleven with both. Furuncles, carbuncles, and deep and superficial abscesses were treated with an injection of the solution into the center of the lesion. Such open lesions as ulcers were generally treated with the ointment. The solution has the advantage of permitting injection into the inflamed tissues. The ointment has the advantage of longer retention of the active agent and hence its slower diffusion.

Results Obtained in the First Hundred Cases of
Surgical Infections Treated by the Local Application of Bacitracin

Diagnosis	Results of Treatment				
	Total Cases	Excel- lent	Good	Ques- tionable	No Effect
Furuncle (Boil)	16	8	8	0	0
Deep abscess	13	4	9	0	0
Superficial abscess	10	3	7	0	0
Infected sebaceous cyst	9	0	8	1	0
Infected operative wound	9	4	5	0	0
Multiple furuncles	6	0	4	2	0
Carbuncle	4	1	3	0	0
Undermining ulcer	4	0	4	0	0
Subungual abscess	4	2	2	0	0
Chronic osteomyelitis	3	0	1	1	1
Ulcer of old scar	3	0	2	1	0
Stye	3	3	0	0	0
Infected accidental wound	2	1	0	1	0
Ulcer of leg	2	0	1	1	0
Ulcer of vulva	2	0	1	1	0
Impetigo	2	2	0	0	0
Miscellaneous (1 each)	8	3	2	1	2
Totals	100	31	57	9	3

Favorable 88%

(Not Restricted)

Showing the Results of Bacitracin Treatment
According to the Bacteria Cultured from the Lesions

			Results of Treatment			
Bacteria		Total Cases	Excel- lent	Good	Ques- tionable	No Effect
Hemolytic strept.	- pure	1	0	1	0	0
	- mixed	6	3	3	0	0
Non-hem. strept.	- pure	2	1	1	0	0
	- mixed	17	4	9	4	0
Coagulase pos. staph.	- pure	30	11	17	1	1
	- mixed	24	9	12	3	0
Coagulase neg. staph.	- pure	6	1	5	0	0
	- mixed	23	7	13	2	1
Gram-pos. aerobic rods	- pure	2	0	2	0	0
	- mixed	15	3	11	1	0
<u>Escherichia coli</u>	- pure	0	0	0	0	0
	- mixed	3	0	2	1	0
<u>Bacillus proteus</u>	- pure	0	0	0	0	0
	- mixed	5	0	3	2	0
Other Gram-neg. aerobic rods	- pure	0	0	0	0	0
	- mixed	7	0	4	2	1
Anaerobic & micro- aerophilic cocci	- pure	1	0	1	0	0
	- mixed	12	4	6	1	1
Anaerobic bacilli	- pure	1	0	0	0	1
	- mixed	4	2	2	0	0
No culture obtained		10	4	4	2	0

(Not Restricted)

The Susceptibility and Resistance to Bacitracin and Penicillin
of Certain of the Bacteria Cultured from the Lesions

Bacteria	Bacitracin S. Penicillin S.	Bacitracin S. Penicillin R.	Bacitracin R. Penicillin S.	Bacitracin R. Penicillin R.
Hemolytic strept.	4	2	0	0
Non-hem. strept.	2	11	0	2
Coagulase pos. staph.	42	10	1	0
Coagulase neg. staph.	15	5	5	4
Anaerobic cocci	10	2	0	0
Gram-neg. bac.	0	0	0	8
S - susceptible		R - resistant		

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Use of Streptomycin in the Treatment of Leprosy: At a recent meeting of the Antibiotics Study Group of the National Institute of Health, USPHS, G. H. Faget and P. T. Erichson gave a preliminary report upon studies carried out in the treatment of leprosy with streptomycin at the U.S. Marine Hospital, Carville, La.

In June 1946 when an adequate amount of streptomycin was made available as part of the supply allotted to the U.S. Public Health Service, it was decided to place 10 selected leprosy patients on a 4 months' course of intensive treatment with streptomycin. At the end of the period, since the results were not conclusive, it was decided to prolong the treatment with reduced dosage for another 3 months. This brought the experimental study to the present date.

The authors summarize their report with the following discussion:

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Further investigation of streptomycin therapy in leprosy must continue before conclusive evidence of its clinical effect can be determined. However, encouraging results seem to have been achieved in some cases.

In large and continuous dosage its toxic manifestations seem to be too severe in comparison with results obtained.

Deafness in one patient which has improved only slightly to date may be too great a price to pay for the benefits obtained.

For comparable results the sulfones have thus far been found to be less toxic and therefore more feasible in the treatment of leprosy.

The improvement observed from treatment with streptomycin is not appreciably more rapid than that obtained with the sulfones. It is not certain whether this improvement will be progressive with continued treatment, as is the case with the sulfones.

Perhaps smaller doses of streptomycin will be found to enhance the therapeutic action of the sulfones and such a combination will prove to be the best future treatment of leprosy.

Streptomycin seems to be an effective agent in the local treatment of chronic leprous ulcerations. Its study in this field should be continued by using it as wet dressings and in ointment bases to observe the best method of topical application as well as the optimal concentration for curative effect.

It is the impression of the writers that unless streptomycin can be further purified to render it less toxic, or the dosage, which is now recommended as 2 Gm. daily for prolonged periods, can be reduced, or a different method of administration developed (such as streptomycin suspension in oil and wax), streptomycin alone will probably not become of great practical value in the treatment of leprosy.

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Effect of Phosphates on Stability of Penicillin: The importance of the practical problems presented by the instability of penicillin in aqueous solution is intensified by the current trend toward commercial production and distribution of crystalline salts of penicillin G, since it is now recognized that under comparable conditions of storage likely to be employed clinically, solutions prepared from crystalline penicillin G lose their antibacterial

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potency more rapidly than do solutions prepared from salts of somewhat lower purity.

Studies on fermentation with different strains of *Penicillium* suggested that a positive correlation, independent of buffer action, might exist between the concentration of KH_2PO_4 initially present in the culture liquor and the maintenance of a relatively high degree of antibacterial activity in the crude penicillin produced therein. Later it was shown that such a correlation does exist in crude penicillins produced in surface and submerged cultures, that the same effect obtains whether adjuvants known to favor the production of penicillin G are present or absent, and that this effect is independent of the initial concentration of the other salts incorporated in the culture medium.

The following summarized the author's report of the studies carried out in the Research Division, Cutter Laboratories, Berkeley, California:

Deterioration of penicillin in sterile aqueous solutions is retarded by addition of small amounts of suitable mixtures of KH_2PO_4 and K_2HPO_4 or of NaH_2PO_4 and Na_2HPO_4 . The effect is probably not dependent in any large measure, if at all, on the hydrogen-ion buffering capacity of the phosphates.

The protective action is observed in impure crude penicillins and in purified crystalline salts. The optimum concentration of phosphate is 0.005 moles per liter. The optimum concentration range with respect to units of penicillin is relatively wide for the sodium or potassium salt, but is more limited and more critical for the calcium salt.

The phosphate may be incorporated in the saline solution to be used as a diluent for the dried penicillin, or it may be added to the concentrated aqueous solution of penicillin prior to lyophilization in appropriate quantities so that subsequent solution in the proper volume of sterile distilled water will yield a preparation with the desired concentrations of phosphate and of penicillin in saline. (From a paper presented at the recent meeting of the Antibiotics Study Group of the National Institute of Health - R. Pratt)

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The Protective Action of Penicillin Against Certain Bacterial Endotoxins:

The following material is from a report on work still in progress which was presented at the recent meeting in Washington, D. C., of the Antibiotics Study Group of the National Institute of Health, USPHS, by C. Phillip Miller and co-workers of the Department of Medicine of the University of Chicago:

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In the course of an investigation of the action of meningococcal endotoxin on mice, it was found that large amounts of penicillin were able to protect a certain number of animals against lethal doses of sterile toxin. Two preliminary reports described this protective action of penicillin against the lethal action of meningococcal and gonococcal endotoxin in mice. These studies have been extended to include the endotoxins of other Gram-negative bacteria with which this report is concerned.

The penicillin employed in most experiments was one of the ordinary preparations intended for clinical use. A few experiments were made with pure crystalline preparations of K, G, X and dihydro F for comparison. In all experiments the criterion of its effectiveness was the ability of the penicillin to protect mice against death from an intraperitoneal injection of endotoxin. Although relatively small or moderate doses of penicillin exerted some protective effect against the lethal action of the endotoxins, very large doses were required to make an impressive demonstration of this effect. The timing of the penicillin injections seemed to be of considerable importance, and the impression was gained that penicillin is most effective if given at least 7 hours before endotoxin. Data are still being accumulated to settle this point.

The results of a series of preliminary experiments show that mice were protected to a significant degree by penicillin against the endotoxins of Salmonella paratyphi, Salmonella schottmülleri, Shigella paradysenteriae, Salmonella enteriditis, Salmonella aertrycke, and Aerobacter aerogenes. However, in the case of Shigella dysenteriae no protection was obtained against 3 different endotoxins prepared in the same manner as all others. The following table lists these results.

Endotoxin prepared from:	Penicillin- treated mice	Control Mice
	LD50	LD50
<u>Salmonella paratyphi</u>	.90	.25
<u>Salmonella schottmülleri</u>	.46	.27
<u>Shigella paradysenteriae</u>	.22	.12
<u>Salmonella enteriditis</u>	.50	.17
<u>Salmonella aertrycke</u>	.54	.08
<u>Aerobacter aerogenes</u>	.18	.07
<hr/>		
<u>Shigella dysenteriae</u> (prep. 1)	.21	.25
<u>Shigella dysenteriae</u> (prep. 2)	.20	.20
<u>Shigella dysenteriae</u> (prep. 3)	.46	.43

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No protective action by penicillin was demonstrated in mice injected with 2 nonbacterial poisons in doses as lethal in the same amount of time as the bacterial endotoxins.

It is concluded, therefore, that penicillin is able to confer a considerable degree of protection on mice against the endotoxins of certain Gram-negative bacteria. The nature of this protective action of penicillin is not yet understood. However, throughout this study the possibility has been considered that the mice may be protected against terminal infections by bacteria which, although commonly present in the intestinal or respiratory tracts of the mice, are held in check by the natural defense mechanism of the body under normal conditions.

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Therapeutic Significance of the Blood Penicillin Level: Harry Eagle, of the Laboratory of Experimental Therapeutics of the USPHS and The Johns Hopkins School of Hygiene, at the recent meeting of the Antibiotics Study Group of the National Institute of Health, USPHS, reported upon studies carried out in animals:

The rates at which streptococci, pneumococci, staphylococci and spirochetes are killed by penicillin in vitro varies strikingly within a narrow range of penicillin concentrations. Thus, in the case of the C-203 strain of Streptococcus pyogenes, a concentration of 0.006 micrograms per c.c. had a definite if slow bactericidal action, but a maximal rate of killing was attained at 0.064 micrograms per c.c. Beyond that level, even an 8,000-fold increase in the concentration of penicillin, up to 512 micrograms per c.c., had no significant effect on the rate at which the organisms were killed in vitro. Qualitatively similar results have been obtained with pneumococcus type I and the cultured Reiter strain of Treponema pallidum (so-called).

These two values, the minimum concentration at which the organisms are killed, and the concentration at which the rate of killing is maximal, apparently comprise the therapeutically useful range of penicillin concentrations. Higher levels at the focus of infection represent largely waste penicillin, and lower levels have little if any therapeutic effect. The maintenance of the maximally effective level at the site of infection constitutes the most effective use of penicillin, and the schedules of injections should be adjusted to maintain that level in the tissue fluids. If the blood level is allowed to fall below the optimal level, the rate at which the organisms are being killed decreases correspondingly; and if the level is allowed to fall below the minimal effective concentration, the organisms may multiply sufficiently in the interval between injections to affect the outcome. The rate at which the organisms

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multiply in vivo is of obvious significance in this connection. Thus, for example, too long an interval between injections proved a much more serious factor with pneumococcal infections of white mice than in experimental rabbit syphilis.

It would be deduced from the foregoing considerations that a single massive injection of penicillin in aqueous solution would be relatively ineffective. Since there is an optimal level of penicillin beyond which further increase does not affect the rate of bactericidal action, the sole advantage of the large injection is the prolonged time for which those effective levels are maintained. In this respect, repeated small doses of penicillin are far more economical than a few large injections. Thus, the total curative dosage of penicillin in experimental syphilis on a single injection was greater than 300,000 units per kg.; on 8 injections at 4-hour intervals, 80,000 units per kg.; and on 50 injections at 4-hour intervals, a total of only 360 units per kg.

Similarly, in pneumococcal infections of white mice, the total curative dosage with a single injection of penicillin G was 113 mg. per kg.; on 4 injections at 1-hour intervals, 6.8 mg. per kg.; and on 10 injections at 1-hour intervals, 1.18 mg. per kg.

In experimental infections of mice and rabbits, the minimum time for which the organisms must be exposed to effective levels of penicillin in order to effect cure has been found to vary with the size of the inoculum, the age of the infection, and with the rate at which the particular organism is killed by penicillin.

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(Not Restricted)

Relative Clinical and Hematologic Effects of Concentrated Liver Extract, Synthetic Folic Acid, and Synthetic 5-Methyl Uracil in the Treatment of Macrocytic Anemias in Relapse: In their summary and conclusions of comparative clinical and hematologic studies on the macrocytic anemia of pernicious anemia, of nutritional deficiency, and of tropical sprue, by the use of concentrated liver extract, synthetic folic acid, or synthetic 5-methyl uracil, the authors state the following:

The hematologic findings show that under the conditions of the study and in the dosages used, each of these 3 substances causes a remission. The clinical and hematologic response to treatment with folic acid parallels that which occurs following concentrated liver extract therapy, but the rate of regeneration is greater with potent liver extract. Folic acid is especially

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recommended when there is sensitivity to liver. Synthetic 5-methyl uracil is the least effective of the 3 substances. The rate of red cell rise and the peak attained is definitely of a lower order than that obtained with either synthetic folic acid or concentrated liver extract. Although 5-methyl uracil is of great scientific interest, it has no practical therapeutic value at the dosage level required to maintain a normal red blood cell count. From these and other studies it seems that the active principle in liver extract is not folic acid but is a very powerful substance which, when obtained in pure form, probably will be no more efficacious per unit weight than is folic acid. (Am. J. M. Sc., Feb. '47 - W. B. Frommeyer, Jr. and T. D. Spies)

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(Not Restricted)

Abstracts of Reports on Research Projects:

X-759
Rep. No. 1
18 Jan '47

Increased Resistance to Penumococcus Infection in Mice
Treated with Whole Adrenal Cortical Extract.

The demonstration that certain adrenal cortical substances are strong excitants of anamnestic immunity responses suggests that an endocrine mechanism takes part in the control of circulating antibodies. Such a mechanism conceivably could be involved in the systemic response by which an infected animal mobilizes its immunological defenses. Hence it is of interest to know whether it is possible, by means of these substances, to alter the course of experimental infections. Evidence has been presented that adrenal cortical extract prolongs the survival time of guinea pigs infected with Clostridium perfringens. It appeared, however, that more definitive results might be obtained in experimental animals sustaining bacteremia instead of a localized infection. For this reason Type I pneumococcus was chosen for the infection of susceptible Swiss miss.

Two hundred mice were inoculated with five dilutions of the culture. One hundred of these (50 males, 50 females) were treated with 0.5 c.c. of whole adrenal cortical extract (ACE) two hours before and 17 hours after inoculation; 100 mice, as controls, received parallel injections of 0.85 per cent saline solution. All controls died within eight days; 22 per cent of the treated animals survived without evidence of infection.

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X-759
(Cont.)

It is concluded that ACE enhances resistance to this type of infection in mice, but that its mode of action is not yet known. Further study of these and related phenomena is desirable before practical applications are sought. (Nav. Med. Res. Inst., Bethesda, Md. - E. P. Vollmer and J. D. Gillmore)

NOTE: Those interested in seeing copies of the complete reports should address their request to the Research Division, BuMed.

Opinions or conclusions contained in these reports are those of the authors. They are not to be construed as necessarily reflecting the views or the endorsement of the Navy Department. Reference may be made to those reports marked "Not Restricted" in the same way as to published articles noting authors, title, source, date, project number, and report number. No part of the content of RESTRICTED reports may be published, reproduced, or referred to in articles for publication without permission obtained through the Bureau of Medicine and Surgery.

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(Not Restricted)

Change re Blood Salicylate Level and PABA: The Proceedings of the Staff Meetings of the Mayo Clinic of 5 February 1947 contains a correction for the report in the issue of 24 December 1946 on "The Effect of Oral Administration of Para-aminobenzoic Acid on the Concentration of Salicylates in the Blood," an abstract of which was contained in the Bumed News Letter of 31 January 1947. The correction states that the "24.0 grains" appearing in line 23 on page 503 (line 16 on page 18 of the 31 January 1947 News Letter) should have been "24.0 grams." Following in the same line, "(1.55 Gm.)" should be canceled.

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(Not Restricted)

Courses in Industrial Medicine Available to Medical Officers of the Regular Navy: Applications are desired from medical officers of the regular Navy for courses leading to a Master's Degree in Public Health to be given at Harvard University and The Johns Hopkins University School of Hygiene and Public Health. The courses will be of eight months' duration and will begin in September and October 1947. Major subjects may be had in any branch of Public Health as long as the required courses are completed. Majors in medical statistics, tropical medicine, and industrial medicine are arranged to fit the individual needs of the applicant. There is at present a need for medical officers trained in the field of industrial medicine, and assignments to excellent billets can be expected by those who complete this training. Officers interested in majoring in the other preventive medicine specialties may also apply. Requests should be submitted in accordance with the Bumed News Letter, dated 24 May 1946, page 23. (Professional Div., BuMed)

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(Not Restricted)

Revised Schedule of Sectional Meetings of American College of Surgeons for 1947: The schedule of Sectional Meetings of the American College of Surgeons for 1947 as announced in the Bumed News Letter of 14 February 1947 (Vol. 9, No. 4, page 29) has been revised by the ACS. The new schedule follows:

SCHEDULE OF SECTIONAL MEETINGS - 1947

<u>Date</u>	<u>City</u>	<u>Headquarters</u>
Monday-Tuesday March 10 - 11	Baltimore	Lord Baltimore Hotel
Friday-Saturday March 14 - 15	Omaha	Hotel Fontenelle
Thursday-Friday March 20 - 21	Fort Worth	Hotel Texas
Friday-Saturday March 28 - 29	Providence	Providence-Biltmore Hotel
Monday-Tuesday April 7 - 8	San Francisco	Fairmont Hotel
Monday-Tuesday April 21 - 22	Vancouver	Hotel Vancouver
Monday-Tuesday April 28 - 29	Winnipeg	Royal Alexandra Hotel

(Not Restricted)

Note: Medical officers who desire to attend these sectional meetings may be given "authorization orders" upon request to BuMed. With such orders, the authorized period of absence from station of duty does not count as leave but no expenses (travel, per diem, etc.) are chargeable to the Government.

(Professional Div., BuMed)

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(Not Restricted)

Attention Naval Reserve Officers:

Opportunity for Active Duty. The attention of Reserve medical officers and of pharmacists is invited to the opportunity to return to active duty at (1) one of the major naval air stations of the Naval Air Reserve Training Command or at (2) one of the Naval Air Reserve Training Units (NARTUs), each as listed below:

Major Naval Air Stations
of the Naval Air Reserve
Training Command

NAS, Atlanta, Ga.
 NAS, Columbus, Ohio
 NAS, Dallas, Texas
 NAS, Glenview, Ill.
 NAS, Grosse Ile, Mich.
 NAS, Los Alamitos, Calif.
 NAS, Memphis, Tenn.
 NAS, Minneapolis, Minn.
 NAS, New Orleans, La.
 NAS, New York, N.Y.
 NAS, Oakland, Calif.
 NAS, Olathe, Kas.
 NAS, Squantum, Mass.
 NAS, St. Louis, Mo.
 NAS, Willow Grove, Pa.
 NAS, Denver, Colo.

Naval Air Reserve
Training Units
based at

NAS, Anacostia, D.C.
 NAS, Jacksonville, Fla.
 NAS, Miami, Fla.
 NAS, Norfolk, Va.
 NAS, Seattle, Wash.

Reserve medical officers and pharmacists who are interested in active duty at one of the stations or units listed above should initiate letters to the Bureau of Naval Personnel, via the Chief of Naval Air Reserve Training, Naval Air Station, Glenview, Ill., and BuMed, listing three or four stations

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at which duty is desired in order of preference. Personnel are desired in ranks not above that of commander in the Medical Corps. However, captains may apply for this duty and, in their applications, request a waiver of the rank requirement.

Officers qualifying for the above billets are advised that, consistent with the needs of the Service, every effort will be made to continue them in their assignments. Certain of the above billets carry orders to duty involving flying for designated naval flight surgeons. Government quarters are available at many of the major naval air stations.

Organized Reserve Affiliation. Flight surgeons of the Naval Reserve who desire to join one of the Naval or Marine combat air groups of the Organized Reserve training at one of the stations listed above should contact the local commanding officer for additional information. (Personnel Div., BuMed)

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(Not Restricted)

Reserve Medical Officers Needed for Combat Air Group Training Course: Reserve Medical Officers will be needed for a two weeks' training course of Navy and Marine combat air groups of the Naval and Marine Air Reserve Training Commands. It is anticipated that the first of these periods will occur in the month of June, 1947. Interested officers below the rank of Captain are invited to communicate with the Staff Medical Officer of CNAResTra, NAS, Glenview, Ill., stating geographic area where duty is desired, and the date which will be most convenient to attend. (Personnel Div., BuMed)

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(Not Restricted)

Guest Lecturers and Clinicians at the U.S. Naval Dental School, National Naval Medical Center, Bethesda, Maryland: As announced in recent issues of the Bumed News Letter, the U.S. Naval Dental School sponsors the presentation each month of several lectures by outstanding men. All dental and medical officers of the regular Navy, or the Naval Reserve, whether on active duty or in an inactive status, dental and medical officers of the Army and the Reserve of the Army and of all other federal services, and civilian dentists and physicians who are affiliated with accredited professional societies who reside in, or who are sojourning or visiting in the District of Columbia or its environs, are cordially invited to attend these meetings.

The following are the guest lecturers and their subjects scheduled during April 1947:

(Not Restricted)

April 4 - Captain Louis H. Roddis, MC, USN - "The Preparation of Professional and Scientific Articles." Captain Roddis is the editor of the Naval Medical Bulletin and the author of many articles on scientific and historical subjects. Conference Room 244 at 1500.

April 9 - Vernon J. Lohr, D.D.S. - "Different Types of Restorations Best Suited in the More Complicated Restorative Cases." Doctor Lohr served for 18 years as professor in the Crown and Bridge Departments of Georgetown, George Washington, and Howard Universities, and has conducted numerous postgraduate courses. He is a member of the American Academy of Restorative Dentistry, and his experience qualifies him as an authority in his field. Conference Room 244 at 1300.

April 11 - Captain Clifford E. Allen, DC, USN - "Observations and Experiences of a Dental Officer on Duty in Russia." Doctor Allen will give a narrative account of his experiences which extend over nearly two years of service in Russia. He will also discuss dental education in other European countries that he had the opportunity of visiting. Conference Room 244 at 1500.

April 18 - William E. Hahn, D.D.S. - "Anatomy of the Head and Neck." Doctor Hahn is professor of Anatomy, College of Dentistry, University of Maryland. His lecture will consist of a demonstration using models, slides, charts, and other aids. Conference Room 244 at 1300.

April 25 - George E. Emig, D.D.S. - "Class Survey; an Essential Adjunct to Partial Denture Design and Construction." Doctor Emig, who is professor of Prosthetic Dentistry, Georgetown University School of Dentistry, Washington, D. C., will discuss and illustrate with slides a way to improve partial denture service by establishing definite retention and path of insertion of the restoration at the time of planning and designing the case. Conference Room 244 at 1300. (Dental Div., BuMed)

Note: No guest lectures are scheduled for the second half of March, 1947.

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(Not Restricted)

Changes to be Made in Copies of Manual of the Medical Department: Certain changes in the Manual of the Medical Department have been directed as specified in Circular Letter 47-22, page 29.

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(Not Restricted)

Additions to BuMed Section of Catalog of Navy Material: The following items are now available for issue by Naval Medical Supply Depots:

<u>Expend- ability</u>	<u>JAN No.</u>	<u>Nomenclature and Description</u>	<u>Unit</u>	<u>Standard Unit Price</u>
	3-680-260	Sound, Urethral, Curved, Van Buren, 16 Fr:	Ea.	\$.64

(Former Navy No. 3-780 not previously cataloged in Preliminary Edition, Catalog of Navy Material, BuMed Section.)

X	3-859-410	Balloon, Duodenal Tube, Miller-Abbott:	Ea.	\$.21
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(Former Navy No. S2-2454 not previously cataloged in Preliminary Edition, Catalog of Navy Material, BuMed Section.)

These memorandum changes are to be treated in all respects as official catalog changes. (MatDiv., BuMed)

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Public Health Foreign Reports:

(Not Restricted)

<u>Disease</u>	<u>Location</u>	<u>Date</u>	<u>No. of Cases</u>
Plague	Ecuador	December '46	9 (8 fatal)
	Peru	December '46	19 (3 fatal)
Smallpox (alastrim)	China, Hong Kong	Dec. 29-Jan. 11, '47	108
	Malay States (Federated)		
	Trengganu	Jan. 5-18, '47	510 (43 fatal)
	Paraguay	November '46	82 (64 un-confirmed)
Typhus Fever	Colombia	December '46	288 (14 fatal)
	Ecuador	December '46	84 (5 fatal)
	Eritrea	Dec. 29-Jan. 4, '47	53
	Mexico	November '46	260
	Peru	November '46	104
	Rumania	Dec. 8-15, '46	365
Yellow Fever	Colombia	Oct. 19, '46-Jan. 7, '47	5 (5 fatal)

(Pub. Health Reps., Feb. 7, 14, and 21, '47)

Circular Letter 47-17

27 January 1947

(Not Restricted)

To: All Ships and Stations

Subj: Travel Orders for Patients and Attendants (Officer and Enlisted)

Refs: (a) BuPers CircLtr 296-44; AS&SL Jul-Dec 1944, 44-1144, p. 381
(b) BuPers CircLtr 367-44; AS&SL Jul-Dec 1944, 44-1398, p. 487
(c) CMC Letter of Instruction No. 865, of 16 Oct 1944
(d) BuMed-BuPers-MarCorp joint ltr., of 21 Feb. 1945; AS&SL Jan-Jun 1945, 45-209, p. 737
(e) BuPers-BuSandA joint ltr., of 12 Sep 1946; N.D. Bul of 15 Sep 1946, 46-1887
(f) BuPers CircLtr 209-46; N.D. Bul of 15 Sep 1946, 46-1882

This is a joint letter signed by the Commandant of the Marine Corps, the Chief of BuPers, and the Chief of BuMed. This letter appears as 47-110, N.D. Bulletin of 31 January 1947. It contains instructions for the interhospital transfers of Naval and Marine Corps patients. The provisions of references (a), (c), and (d) pertaining to the transfers of patients to naval hospitals nearer their home at Government expense for their own convenience are canceled.

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Circular Letter 47-18

20 February 1947

(Not Restricted)

To: All Naval Activities, Continental United States

Subj: Return to United States of World War II dead from overseas cemeteries.

Encl: 1 (HW) Two Sample Application Forms for completion by next of kin.
2. (HW) Two Pamphlets of Information for next of kin.
3. (HW) Two Pamphlets - American Cemeteries.

1. Pursuant to Public Law 383, 79th Congress, approved May 16, 1946, entitled "An Act to provide for the evacuation and return of the remains of certain persons who died and are buried outside the continental limits of the United States," plans are being developed by the Office of the Quartermaster General, War Department, in cooperation with Headquarters, Marine Corps, U.S. Coast Guard and the Bureau of Medicine and Surgery, for the accomplishment of this task.

(Not Restricted)

2. All phases of this program are outlined in enclosures. The enclosures are furnished for your information and to assist you in answering any inquiries that may be received by you from relatives or friends of deceased Service personnel.
3. This program is one of great magnitude, as it involves all of the various theaters of operations of the War, and will be undertaken area by area. The remains of Service personnel interred in cemeteries in the Territory of Hawaii will be the first to be returned, the earliest shipment to arrive approximately August, 1947. Early in March application forms and pamphlets (enclosures) will be mailed to the next of kin in these cases, and, as the operations proceed to other areas, the next of kin will be similarly contacted. It is estimated that the entire program will be completed within twenty months after the arrival of the first shipment of remains in the United States.
4. The War and Navy Departments anticipate that many families will have moved from the places of residence of record at time of notification of death of their loved ones, and have failed to keep the proper offices informed. Therefore, considerable assistance may be rendered the War and Navy Departments, if the persons contacting you for information will be reminded to notify the proper office (pages 17 and 18 of pamphlet) of any change of address.
5. Instructions regarding escorts will be furnished by the Bureau of Naval Personnel and Headquarters, Marine Corps.

--BuMed. C. A. Swanson

Note: Because of space limitations, copies of enclosures are not included in the News Letter.

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Circular Letter 47-19

20 February 1947

(Not Restricted)

To: Medical Officers in Command, Naval Medical Centers, Naval Hospitals, Naval Dispensaries.

Subj: Reorganization to provide more efficient dental care for the personnel of the United States Navy.

Ref: (a) Public Law 284, 79th Congress, 1st Session, Approved 28 Dec 1945.
(b) ALNAV 343-46, 27 June 1946.

(Not Restricted)

Refs: (c) All Ships and Stations ltr, Op21D-jc, Serial 3369, P24, 27 Jun 1946.

1. Section 4 of reference (a) states that the Secretary of the Navy shall provide by regulations for establishing on ships and on shore stations dental services to be under the senior dental officer, who shall be responsible to the commanding officer of each such ship or shore station for all professional, technical and administrative matters in connection therewith. References (b) and (c) were issued to implement this section and the other sections of the Act.
2. The effect of Section 4 of the Act of 28 December 1945 and of references (b) and (c) is to place the care and treatment of all dental conditions under the control of the dental officer, subject to the direction of the commanding officer of the activity to which the dental officer is attached, as the law provides that the dental officer shall be responsible in all respects to the commanding officer.
3. Accordingly, at all activities of the Medical Department of the Navy which are under the command of a medical officer in command the dental service at such activities shall continue to operate under the same organization and function in the same manner that it was organized and functioned prior to the enactment of the Act of 28 December 1945. This directive is effective as of date of receipt and shall continue in effect until such time as it shall be modified or superseded by subsequent communication or communications. It applies to property and accounting, to staff and patient personnel, and to all other matters in connection with the dental service.
4. In the Manual of the Medical Department, paragraph 16A5, the organization of naval hospitals is prescribed. No change has been made in this organization by the Act of 28 December 1945 or by references (b) or (c). The medical officer in command continues to be charged with the command and the direction of the hospital for the purpose of carrying out its mission and the duties and responsibilities of the chief of the dental service are as set forth in paragraph 16A26 of the Manual. The dental service of a naval hospital, therefore, remains in the same position that it occupied prior to the enactment of the Act of 28 December 1945, without change; that is, the dental service, as a constituent part of the professional service of the hospital, operates and functions in all respects in the same manner as the surgical service, medical service, urological service, and other services operate and function.
5. This interpretation and directive shall apply to all naval dispensaries under the command of a medical officer in command to the extent practicable.

--BuMed. C. A. Swanson

Circular Letter 47-20

20 February 1947

(Not Restricted)

To: MedOfsCom, U.S. Naval Hospitals
U.S. Naval Medical Supply Depots,
National Naval Medical Center, Bethesda, Md.
U.S. Naval Medical Center, Guam, M. I.

Subj: Report of All Group IVa Positions in Medical Department Field Activities.

Ref: (a) NCPI 250.6-5d. (Rev. II).

This letter from the Chief of BuMed directs the addressees to furnish to BuMed on or before 15 March 1947 certain information which will be used in a review of Group IVa supervisory positions in field activities.

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Circular Letter 47-21

24 February 1947

(Not Restricted)

To: All Ships and Stations

Subj: BuMed Field Records Schedule

Refs: (a) N.D. Bulletin 46-1790, dtd 28 Aug 1946, Change No. 1 in BuMed Field Records Schedule; BuMed CircLtr 46-127.
(b) N.D. Bulletin 46-2185, dtd 25 Nov 1946, Change No. 2 in BuMed Fields Records Schedule; BuMed CircLtr 46-170

1. Reports to the Bureau of Medicine and Surgery reveal several recent instances of unauthorized destruction of medical records.

2. Attention is invited to reference (a) which required the retention of various medical logs included under item 74 of the BuMed Field Records Schedule, and to reference (b) which requires the retention of copies of NavMed Form Y filed in patient's jacket or clinical record and copies recording final physical examination of personnel separated from the Service.

3. The BuMed Field Records Schedule, which fixes the minimum time medical records must be kept before destruction, was authorized by the Joint Committee on Disposition of Executive Papers, March 22, 1945, House Report No. 359, 79th Congress, 1st Session. Regulations contained in references (a) and

(Not Restricted)

(b) governing the custody and disposition of medical logs and NavMed Form Y's, are BuMed amendments to the original Schedule. These Bureau amendments possess the same legal authority as the original approved schedule since an executive agency has authority to retain records longer than an authorized schedule requires but not to destroy them within a shorter period without the consent of Congress.

4. Strict adherence to all approved records disposal schedules is required under 57 Stat. 380-383 approved July 7, 1943, as amended by 59 Stat. 434 approved July 6, 1945.

--BuMed. H. L. Pugh

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Circular Letter 47-22

25 February 1947

(Not Restricted)

To: All Ships and Stations

Subj: Manual of the Medical Department, Advance Change No. 1.

1. The Manual of the Medical Department is modified as follows:

Delete paragraph 16B22.1 and substitute:

Rheumatic Fever.--16B22.1. The Naval Hospitals at Dublin, Georgia; Houston, Texas; and Corona, California are designated for the treatment of naval and Marine Corps personnel with a diagnosis of rheumatic fever.

Delete paragraph 16B23.1 and substitute:

Tuberculosis.--16B23.1. The Naval Hospital, St. Albans, New York and the Naval Hospital, Corona, California are designated for the treatment of naval and Marine Corps personnel with a diagnosis of tuberculosis.

--BuMed. C. A. Swanson

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Circular Letter 47-23 (see page 32)

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Circular Letter 47-24 25 February 1947 (Not Restricted)

To: All Ships and Stations

Subj: Immunization Against Yellow Fever

Ref: (a) BuMed CirLtr 45-72, P2-3/P3-1, of 15 Mar 1945

This letter from the Acting Chief of BuMed modifies reference (a) which lists the distributing centers for yellow fever vaccine, through the addition to the list of the Dispensary, Naval Shipyard, Charleston, South Carolina.

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Circular Letter 47-25 27 February 1947 (Not Restricted)

To: Medical Officers in Command of Naval Hospitals, Medical Supply Depots, and Storehouses

Subj: Flammable Liquids and Floor Wax Combinations, Cleaning or Refinishing Floors with

Ref: (a) Yards and Docks CircLtr 143-44 dtd 20 Oct 1944

This letter from the Acting Chief of BuMed directs that certain flammable liquids, such as gasoline, acetone, benzine, etc., not be issued or used for cleaning or refinishing floors. Specific instructions are given for the use of a flammable liquid with a flash point not less than 100° F. when such use is considered necessary in exceptional cases.

This letter provides further that only non-slip water emulsion wax shall be used to refinish old floors or to finish new floors and that no type of slippery wax, whether cut or not cut by flammable liquids, shall be used.

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Circular Letter 47-26

27 February 1947

(Not Restricted)

To: All NavHosps

Subj: Hospitalization Status of Temporary Officers Reverting to Permanent Ratings in the Fleet Reserve.

Ref: (a) BuMed CirLtr 47-2 dtd 14 Jan 1947

This letter from the Deputy and Assistant Chief of BuMed cancels paragraph 4 of reference (a) (contained in the Bumed News Letter of 31 January 1947) and substitutes a revised accounting method.

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Circular Letter 47-27

27 February 1947

(Not Restricted)

To: MedOfCom, Naval Hospitals; Naval Medical Supply Depots; National Naval Medical Center, Bethesda, Md., Naval Medical Center, Guam. M.I.; Naval Medical Research Unit #3, Cairo, Egypt.

Subj: Industrial Relations Officer (Civilian Personnel Officer), assignment of.

Refs: (a) NCPI 125 (Rev. I).
(b) NCPI 135 (Rev. I).

This letter from the Chief of BuMed calls attention to certain unauthorized practices existing in the matter of effecting personnel actions (accessions, changes, transfers, and separations) in the case of civilian employees, and gives instructions for the procedures involved in accordance with existing directives.

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Circular Letter 47-28

28 February 1947

(Not Restricted)

To: All Ships and Stations

Subj: Caskets, inspection of.

This letter from the Acting Chief of BuMed points out the necessity of carefully inspecting all caskets placed in use and lists several types of defects such as mildew, rusted or bent or broken handles, chipped paint, etc., that may be encountered. This letter directs that a check be made on a certain lot of caskets and an immediate report of the findings be made to BuMed. Any

(Not Restricted)

found defective are not to be used or repaired or disposed of prior to receipt of specific instructions from BuMed. Disposition or repair of defective caskets other than the certain lot under consideration shall be effected in accordance with provisions of the Manual of the Medical Department.

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Circular Letter 47-23

25 February 1947

(Restricted)

To: Commandants of all Naval Districts

Subj: Medical Stores Allowance Lists for Chemical Warfare Training Schools.

Ref: (a) Defensive Chemical Warfare Manual FTP 222.

Encl: 1. (HW) Basic Allowance List of Medical Material for Chemical Warfare Training Schools.

1. Reference (a) provides that certain items of Medical Materials shall be furnished for use in Chemical Warfare Training Schools. Accordingly, Enclosure 1 is forwarded herewith for information and guidance in establishing and maintaining such schools. Attention is invited to "Notes" included on Enclosure 1.

--Deputy and Assistant Chief, BuMed. H. L. Pugh

Note: Enclosure to addressees not reprinted in Bumed News Letter.

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